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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,606	03/21/2001	Hiroyuki Osakabe	4041J-000368	3028

27572 7590 09/09/2003

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EXAMINER

PATEL, NIHIR B

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,606

Applicant(s)

OSAKABE, HIROYUKI

Examiner

Nihir Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 8-10 and 14-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 11-13, and 22-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see paper number 9, filed June 20th, 2003, with respect to claims 3 and 11 have been fully considered and are persuasive. The finality of an office action has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 13, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Watt US Patent No. 4,127,105. Referring to claim 1, Watt discloses isothermal process solar collector panel that comprises a heat exchange part (12) in which refrigerant vapor performs heat exchange with liquid coolant (see figures 1 and 2 and column 3 lines 59-68 and column 4 lines 1-11), the refrigerant vapor being produced from liquid refrigerant that is boiled and gasified by heat transfer from the heating element 14 (see figures 1 and 2; column 3 lines 35-45).

Referring to claim 2, Watt shows that the heat exchange part defines therein a vapor passage (see figure 2) in which the refrigerant vapor flows, and a coolant passage (see figure 1) in which the liquid coolant flows to perform the heat exchange with the refrigerant vapor, the coolant passage adjoining the vapor passage (see figures 1 and 2).

Referring to claim 13, Watt shows that the first radiator has a lower tank communicating with the vapor outflow passage 12 (see figures 1 and 2) through the first outlet portion, and the

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heat exchange part disposed above the lower tank; in the heat exchange part, the refrigerant vapor is liquefied as condensate by the heat exchange with the liquid coolant (see column 4 lines 1-11); the refrigerant vessel has a liquid return passage (see figure 2) into which the condensate flows from the heat exchange part, the liquid return passage communicating with the vapor outflow passage through the lower tank (see figure 2) of the first radiator.

Referring to claim 26, Watt shows that the heat exchange part has therein a vapor passage (see figure 2) in which refrigerant vapor flows, and a coolant passage (see figure 1) in which liquid coolant flows to perform heat exchange with refrigerant vapor in the vapor passage; and the coolant passage (see figure 1) is provided to be separated from outside air outside the heat exchange part.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watt US Patent No. 4,127,105 in view of Inoue U.S. Patent No. 6,016,966.

Watt discloses the applicant's invention as claimed with the exception of providing a pump to circulate the liquid coolant in the coolant passage.

Inoue discloses an air conditioning system for automotive vehicles that does provide a pump to circulate the liquid coolant in the coolant passage. Therefore it would be obvious to

modify Watt's invention by providing a pump to circulate the liquid coolant in the coolant passage in order to circulate the coolant quicker.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watt US Patent No. 4,127,105 in view of Benedict U.S. Patent No. 5,421,169.

Watt discloses the applicant's invention as claimed with the exception of providing first and second radiators.

Benedict discloses an air conditioning apparatus especially for an electric vehicle that does provide first and second radiators. Therefore it would be obvious to modify Watt's invention by providing first and second radiators in order to cool the liquid quicker.

Claims 22 through 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watt US Patent No. 4,127,105 in view of Iritani et al. U.S. Patent No. 5,983,652.

Watt discloses the applicant's invention as claimed with the exception of providing a motor that is connected to the boiling cooler in series for supplying the liquid coolant from the radiator to the boiling cooler.

Iritani discloses an automotive air conditioner having condenser and evaporator provided within air duct that does provide a motor that is connected to the boiling cooler in series for supplying the liquid coolant from the radiator to the boiling cooler. Therefore it would be obvious to modify Watt's invention by providing a motor that is connected to the boiling cooler in series for supplying the liquid coolant from the radiator to the boiling cooler so that the coolant can be delivered faster.

Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watt US Patent No. 4,127,105 in view of Nagakabe Patent No. JP02000022377A.

Referring to claim 3, Watt discloses the applicant's invention with the exception providing a tank defining a refrigerant chamber for storing the liquid refrigerant therein with a liquid surface, wherein; the vapor passage is provided above a liquid surface inside the tank.

Nagakabe discloses a boiling cooler that does provide a tank defining a refrigerant chamber for storing the liquid refrigerant therein with a liquid surface, wherein; the vapor passage is provided above a liquid surface inside the tank. Therefore it would be obvious to modify Watt's invention by providing a tank defining a refrigerant chamber for storing the liquid refrigerant therein with a liquid surface, wherein; the vapor passage is provided above a liquid surface inside the tank in order to increase the heat transfer process.

Referring to claim 11, Watt discloses the applicant's invention as claimed with the exception of providing a boiling cooler that is used for a vehicle.

Nagakabe discloses a boiling cooler that does provide a boiling cooler that is used for a vehicle. Therefore it would be obvious to modify Watt's invention by providing a boiling cooler that is used for a vehicle to cool the vehicle more quickly.

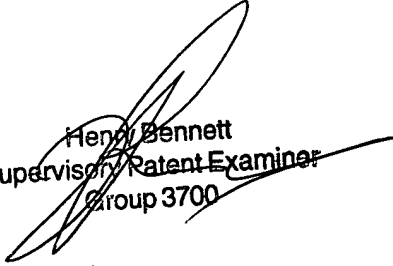
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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
September 8, 2003


Henry Bennett
Supervisor/Patent Examiner
Group 3700